

# BASIC MEDICAL SCIENCES (BMSC)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>).

## Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (<http://louisville.edu/bursar/tuitionfee/>).

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### BMSC 804. Integrated Biomedical Sciences I 9 Units

**Term Typically Offered:** Fall Only

**Description:** This course serves as the first part of a 3-part series, integrating foundational aspects of anatomy, biochemistry, histology and physiology across the body systems. Fundamental topics are introduced integrating anatomy, biochemistry, histology and physiology. Foundational material necessary to fully understand the human body systems at both macroscopic and microscopic levels is provided to build conceptual understanding across the biomedical science disciplines. These fundamental topics, including but not limited to, musculoskeletal, central nervous system, and mineralized tissues, with an emphasis given to application to dentistry will become the foundational basis for further development of additional organ system blocks in Parts 2 and 3 of the Integrated Biomedical Sciences. Clinical correlates for the foundational topics will be discussed and exams will assess the mastery of the material.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

### BMSC 805. Integrated Biomedical Sciences II 12 Units

**Term Typically Offered:** Fall Only

**Description:** This course serves as the second part of a 3-part series, integrating foundational aspects of anatomy, biochemistry, histology and physiology across the body systems. Fundamentals of the human body are integrated and compartmentalized in specific organ system blocks, such that the structure and basic function of cells, tissues, and organs can be discussed at both macroscopic and microscopic levels, with clinical application. These organ system blocks include, but are not limited to, circulatory, respiratory, renal, endocrine, and gastrointestinal, with an emphasis given to application to dentistry. Each organ system block will end with an exam which will assess the mastery of the material.

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### BMSC 806. Microbiology and Immunology 4 Units

**Description:** This is a general course on infectious diseases of high relevance to those in the field of dentistry. Special emphases are placed on oral infections, immunity, treatment, and microbial resistance mechanisms. Specific topics include the human immune response, pathogenesis of common microbial infections, and the microbiological and biochemical basis of oral, head, and neck infections, periodontal diseases, and cariogenesis.

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### BMSC 807. Pharmacology and Dental Therapeutics 4 Units

**Description:** The Pharmacology and Dental Therapeutics course is designed to provide broad pharmacokinetic and pharmacodynamic principles towards for the major drug groups utilized in dentistry by health care providers and their patients. The course content emphasizes mastery of the principles required for life-long learning of both current and yet to be released drugs to ensure appropriate therapeutic utilization that maximizes efficacy and minimizes toxicity in each individual patient.

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### BMSC 809. Integrated Biomedical Sciences III 10 Units

**Term Typically Offered:** Spring Only

**Prerequisite(s):** Enrollment in the School of Dentistry This course is designed specifically for first-year dental students.

**Description:** The primary goal of the course is to introduce clinically-oriented principles of the gastro-intestinal (GI) tract, head, and neck regions integrating gross anatomy, neuroanatomy, histology, physiology, biochemistry, and embryology. The course is also designed to foster critical thinking skills necessary for students to utilize their knowledge of these regions to evaluate the health of patients and to solve clinical problems. Anatomical donor prosection is the focal point of all teaching activities, allowing students to develop a three-dimensional/functional appreciation for the relationships of the various structures of these regions.

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